DESIGN OF MEASURING FLOW VELOCITY DEVICE FOR LIQUID FLUID WITH VENTURIMETER PRINCIPLES BASED ON ARDUINO

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ABSTRACT

Talk about fluid in the physics learning, many abstract concepts in there. The concept is found in the discussion of a fluid flow velocity of liquid by applying the working principles of the venture meter. The characteristics of the material are the abstract will be easy to understand if it said by an everyday experience visualized in learning so that needed media that allows the existence of practical material on the topic of fluid so that the fluid theory concepts easy to understand. This research aims to help student understanding of the fluid dynamic materials, automation data retrieval method with water flow sensor with Arduino-based, with the power on tap for panning/knop speed. Based on the results of the design tool that can be obtained by measuring the velocity of the fluid flow at a speed greater than 0.36 m/s, this is proven through analysis of logarithmic graph between the theory of speed value magnitude v theory = (0.5 x + 0.7934) m/s and the speed of the tool v tool = (0.5825x + 1,129) m/s, there is a difference between a theory and a tool that shows great savings flow friction venture meter speed. This is the value of the friction velocity of a turbulent flow velocity, so the design of the tool can be used as a medium to assist students in understanding the fluid material.

Keywords: liquid fluid flow, Arduino, venture meter, water flow sensor.